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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,318

01/13/2004

Mary Elizabeth Tabacco

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7590

05/04/2006

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WASHINGTON, DC 20007

EXAMINER

GEISEL, KARA E

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/758,318	Applicant(s) TABACCO ET AL.	
	Examiner Kara E. Geisel	Art Unit 2877	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claims 4 and 11 are objected to because of the following informalities:

Claim 4 recites the limitation "the substrate" in lines 5 and 7-8. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the substrate" in lines 8 and 11-12. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fraatz et al. (USPN 5,372,936), in view of applicant's specification.

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In regards to claims 1-3, Fraatz discloses a real-time monitoring system (figs. 1 and 5) comprising a single-fiber optic probe or multiple fiber optic probes (10) that detects wavelength specific fluorescence from biomarkers (column 5, lines 18-38), a compact optoelectronic interface and data acquisition system interfaced with the probes (9-11 and column 4, lines 1-5), wherein the probes are bifurcated (10) and contain at least one excitation (column 5, lines 18-27) and at least one emission filter (column 5, lines 28-38) permitting simultaneous resolution of multiple biomarkers (fig. 7 and column 13, lines 21-32). Fraatz is silent to the fact that the biomarkers are for biofilms of fouling organisms. However, it is disclosed that this device could be used to determine any contamination, including in water samples (column 1, lines 21-34).

Applicant discloses in the Background that fouling organisms grow in water via biofilm formation and are a common contamination problem of water, and in order to correct this contamination, the concentration of the fouling organisms must be measured (§s 4-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Fraatz's real-time monitoring system in order to measure fouling organisms in water in order to determine the amount of contamination, and in order to allow the contamination to be corrected.

In regards to claims 4, 8, and 11, Fraatz discloses a method for detecting organisms (figs. 1, 5, and 7, and column 1, lines 21-34) comprising introducing excitation light (9) into a first side of a plurality bifurcated optical fibers (10) directed to a sample (5), wherein the excitation light can be the same or different for each first side of the bifurcated optical fiber bundles (fig. 7), obtaining emission arising from a substrate (3a-c) through a second side of a bifurcated optical fiber (10), and detecting emission arising from the substrate (11) and correlating this emission to the presences or absence of the organisms (column 2, lines 50-65). Fraatz is silent to the fact that the organisms are fouling organisms. However, it is disclosed that this device could be used to determine any contamination, including in water samples (column 1, lines 21-34).

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Applicant discloses in the Background that fouling organisms grow in water via biofilm formation and are a common contamination problem of water, and in order to correct this contamination, the concentration of the fouling organisms must be measured (§s 4-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Fraatz's real-time monitoring method in order to measure fouling organisms, including *P. Aeruginosa* (Fraatz column 13, lines 45-49), in water in order to determine the amount of contamination, and in order to allow the contamination to be corrected.

In regards to claims 9-10 and 12-13, the sample can be any sample desired (Fraatz column 1, lines 21-34).

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fraatz et al. (USPN 5,372,936), in view of applicant's specification, as applied to claims 1-4, and 8-13 above, and further in view of Davison et al. (USPN 6,755,074).

In regards to claims 5-7, the combined system is silent to including an excitation reference channel to correct for spectral interference from non-biological materials. However, it is well known in the art that fluorescence caused by background items (such as water, the sample holder, other contaminants) is a problem in measuring sample fluorescence accurately, and furthermore, it is well known in the art that in order to correct for background, there can be an additional channel in a probe to measure background.

For example Davison discloses a fluorescent measuring device using fiber channels (fig. 15), wherein one of the fiber channels is used as a reference to measure background fluorescence (142R) in order to correct the other channels fluorescent measurements (columns 14-15, lines 60-67 and 1-9, respectively). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the combined system Davison's excitation reference channel to correct

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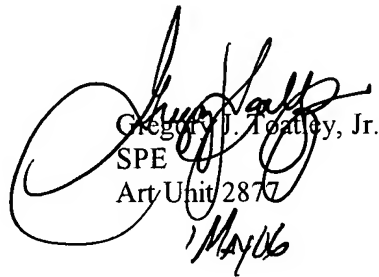
for spectral interference from non-biological materials in order to measure the sample fluorescence more accurately.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gregory J. Toatley, Jr.  
SPE  
Art Unit 2877  
May 06

K.G.  
KEG  
April 26, 2006